

Patent Claims

1. Process for laser machining of coated sheets, in which at least one topographic change projecting from the surface is produced on at least one side of at least one sheet metal by means of the laser, thereby characterized, that the laser beam produces the at least one topographic change in that it carries out a movement through and/or about the center of the processing surface with transverse and longitudinal components.
2. Process according to claim 1, thereby characterized, that the sheet metal is a high strength steel.
3. Process according to claim 1 or 2, thereby characterized, that the laser beam is controlled discontinuously with regard to its power and/or speed profile.
4. Process according to one of the preceding claims, thereby characterized, that the laser beam is not focused on the surface.
5. Process according to one of the preceding claims, thereby characterized, that the laser beam describes, during its movement, an ellipse, rosette or fermat figure.
6. Process according to one of the preceding claims, thereby characterized, that at least one additional sheet is brought into contact with the at least one coated sheet in such a manner that the at least one projecting topographic change brings about the formation of a gap between the at least two sheets and that the at least two sheets in the area of the at least one gap are welded to each other, in such a manner, that vaporization productions occurring thereby can escape through the at least one gap.
7. Process according to claim 6, thereby characterized, that the at least two sheets are welded together in such a manner, that the resulting weld seam at least partially replaces the previously produced at least one topographic change.

8. Coated sheet with at least one topographic change projecting from the surface, thereby characterized, that the topographic change exhibits a peak radius, which is greater than the height of the topographic change.
9. Coated sheet according to claim 8, thereby characterized, that the peak radius and height of the topographic change exhibit a ratio of at least 2:1.
10. Coated sheet with at least one topographic change projecting from the surface, thereby characterized, that the sheet is a high strength steel.